

**U.S. Department of Agriculture, Agricultural Research Service**  
**Systematic Mycology and Microbiology Laboratory - Nomenclature Fact Sheets**

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***Urocystis agropyri* (Preuss) A.A. Fisch. Waldh. 1867**

Preuss (1848) published the name *Uredo agropyri* for a smut occurring on a host plant labelled with the German common name "Quackengras"; authors have interpreted this as the grass currently named *Elytrigia repens* (= *Agropyron repens* = *Triticum repens*). Fischer von Waldheim (1867) transferred this fungus from *Uredo* to *Urocystis*, citing as basionym *Uredo agropyri* Pers., however, there is no record that Persoon ever published this name. Körnicke (1877) speculated that the author attribution was the result of a typographical error. The incorrect author citation does not invalidate the name (Art. 33.4), and it should be cited as *Urocystis agropyri* (Preuss) A.A. Fisch. Waldh. 1867.

When making the new combination *Urocystis agropyri*, Fischer von Waldheim (1867) added a description of a smut on the host *Carex acuta* (Cyperaceae); however, this smut is now considered to be a distinct species, *Urocystis fischeri* Körn. ex G. Winter 1881. Despite being applied by Fischer von Waldheim to the smut of *Carex*, the name *Urocystis agropyri* refers to the flag smut of Poaceae, typified by the type of its basionym, *Uredo agropyri* (Art. 7.4).

Schröter (1869) published the name *Urocystis agropyri* (also as (Pers.) ), listing *Triticum repens* (= *Elytrigia repens*) as host. Körnicke (1877) argued that the name *Urocystis agropyri* (Preuss) A.A. Fisch. Waldh. 1867 should be rejected because the description refers to a different fungus than the basionym cited, and instead the name *Urocystis agropyri* (Preuss) J. Schröt. 1869 should be the accepted name for the flag smut of Poaceae, but this is counter to the Code (Art. 7.4), unless the type were to be conserved. *Urocystis agropyri* (Preuss) A.A. Fisch. Waldh. 1867 is frequently cited erroneously as *Urocystis agropyri* (Preuss) J. Schröt. 1869 in the literature.

Körnicke (1877) suggested that the smut described by Fischer von Waldheim on *Carex acuta* under the name *Urocystis agropyri* be named *Urocystis fischeri*, retaining the name *Urocystis agropyri* for the flag smut of Poaceae. He failed to provide a description, therefore, it fell to Winter (1881) to provide a description and validate the name, as *Urocystis fischeri* Körn. ex G. Winter 1881.

Using a morphological species concept, Fischer (1953) rejected species distinctions based on host specificity within the Poaceae and treated an extensive list of *Urocystis* species, including *Urocystis tritici*, as synonyms of *Urocystis agropyri*. This has not been accepted by most later authors (Purdy 1965, Scholz 1988, Vanký 1994, Denchev 2001, but see Mordue & Ainsworth 1984).

***Urocystis agropyri* (Preuss) A.A. Fisch. Waldh. 1867 (Ustilaginomycetes, Urocystales)**

≡ *Uredo agropyri* Preuss 1848

≡ *Polycystis agropyri* (Preuss) J. Schröt. 1877

≡ *Tuburcinia agropyri* (Preuss) Liro 1922

≡ *Urocystis occulta* var. *tritici* (Preuss) Ellis 1879

[*Urocystis agropyri* (Preuss) J. Schröt. 1869] Note: Isonym.

= *Tuburcinia agropyri-campestris* Massenot 1955

≡ *Urocystis agropyri-campestris* (Massenot) H. Zogg 1986

[*Tuburcinia agropyri-juncei* Vienn.-Bourg. 1954] Note: Invalid name, no latin diagnosis (nom. nud.).

[*Urocystis agropyri-juncei* (Vienn.-Bourg.) H. Zogg 1986]

[*Tuburcinia occulta* [var.] *agropyri* (Preuss) Cif. 1963] Note: Invalid via ICBN Art. 35.1.

= *Urocystis preussii* J.G. Kühn 1874

**Notes:** Not (Preuss) J. Schröt. 1869. The basionym was originally attributed to Persoon, apparently due to a typographical error (Körnicke 1877). The original type specimen for *Uredo agropyri* is described from the host Quackengras (German) = *Elytrigia repens* (= *Agropyron repens* or *Triticum repens*). Fischer von Waldheim was the first to use the combination *Urocystis agropyri*, applying it to a fungus on *Carex acuta*, but citing as basionym *Uredo agropyri* on *Elytrigia repens*. The name *Urocystis agropyri* must be typified by the type of the basionym (i.e. the fungus on *Elytrigia*) despite being applied by Fischer von Waldheim to the fungus on *Carex* (Art. 7.4). Körnicke assigned the new name *Urocystis fischeri* to the fungus described by Fischer von Waldheim on *Carex acuta*, but did not provide a description (nom. nud.). The name was later validated by Winter, as *Urocystis fischeri* Körn. ex G. Winter 1881. Fischer (1953), using a morphological species concept, rejected species distinctions based on host specificity within the Poaceae and placed *Urocystis tritici* as a synonym of *Urocystis agropyri*, but this has not been universally accepted by later authors (e.g. Purdy 1965, Scholz 1988, Vanký 1994, Denchev 2001). *Urocystis occulta* is a partial synonym (auct. pro parte).

**Distribution:** Europe, Asia, Africa, North America, South America (Argentina), Australia.

**Substrate:** Leaf blades, sometimes glumes and rhizomes.

**Disease Note:** Flag smut.

**Host:** *Urocystis agropyri* sensu stricto is restricted to wheatgrasses; *Agropyron* spp., *Elytrigia* spp. *Urocystis agropyri* in the broader concept of Fischer (1953) includes the flag smuts on other grasses (Poaceae).

### Supporting Literature:

Denchev, C.M. 2001. Class Ustomycetes (Orders Tilletiales, Ustilaginales, and Graphiolales). Fungi Bulgaricae 4: 1-286.

Fischer, G.W. 1953. Manual of the North American Smut Fungi. Ronald Press Company, New York, 343 pages.

Mordue, J.E.M., and Ainsworth, G.C. 1984. Ustilaginales of the British Isles. Mycol. Pap. 154: 1-96.

Purdy, L.H. 1965. Flag smut of wheat. Bot. Rev. (Lancaster) 31: 565-606.

Scholz, H., and Scholz, I. 1988. Die Brandpilze Deutschlands (Ustilaginales). Englera 8: 1-691.

Vanký, K. 1994. European Smut Fungi. Gustav Fischer Verlag, Stuttgart, 570 pages.

Zogg, H. 1985. Die Brandpilze Mitteleuropas unter Besonderer Berücksichtigung der Schweiz. Cryptog. Helv. 16: 1-277.

Verified By: Erica On Oct 21, 2005

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### ***Urocystis tritici* Körn. 1877 (Ustilaginomycetes, Urocystales)**

≡*Tuburcinia tritici* (Körn.) Liro 1922

**Notes:** Fischer (1953), using a morphological species concept, rejected species distinctions based on host specificity within the Poaceae and placed *Urocystis tritici* as a synonym of *Urocystis agropyri*, but this has not been universally accepted by later authors (e.g. Purdy 1965, Scholz 1988, Vanký 1994, Denchev 2001).

**Distribution:** Cosmopolitan.

**Substrate:** Leaves, sometimes glumes and rhizomes.

**Disease Note:** Flag smut.

**Host:** *Triticum* spp. (Poaceae).

**Supporting Literature:**

**Denchev, C.M.** 2001. Class Ustomycetes (Orders Tilletiales, Ustilaginales, and Graphiolales). *Fungi Bulgaricae* 4: 1-286.

**Fischer, G.W.** 1953. Manual of the North American Smut Fungi. Ronald Press Company, New York, 343 pages.

**Mordue, J.E.M., and Ainsworth, G.C.** 1984. Ustilaginales of the British Isles. *Mycol. Pap.* 154: 1-96.

**Purdy, L.H.** 1965. Flag smut of wheat. *Bot. Rev. (Lancaster)* 31: 565-606.

**Savile, D.B.O.** 1953. Notes on Boreal Ustilaginales. *Canad. J. Bot.* 31: 663-674.

**Scholz, H., and Scholz, I.** 1988. Die Brandpilze Deutschlands (Ustilaginales). *Englera* 8: 1-691.

**Vanký, K.** 1994. European Smut Fungi. Gustav Fischer Verlag, Stuttgart, 570 pages.

**Zogg, H.** 1985. Die Brandpilze Mitteleuropas unter Besonderer Berücksichtigung der Schweiz. *Cryptog. Helv.* 16: 1-277.

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***Urocystis fischeri* Körn. ex G. Winter 1881 (Ustilaginomycetes, Urocystales)**

≡*Tuburcinia fischeri* (Körn. ex G. Winter) Liro 1922 Note: Genus rejected; *Urocystis* g. cons.

[*Urocystis fischeri* Körn. 1877] Note: Originally intended to serve as a replacement name for *Urocystis agropyri* (Preuss) A.A. Fisch. Waldh., but without description, invalid name (nom. nud.).

[*Tuburcinia rigida* Liro 1939] Note: No latin diagnosis (Art. 36.1).

**Notes:** The invalid name *Urocystis caricis* Ule 1884 (nom. nud., no description) has also been applied to this fungus. Fischer von Waldheim was the first to use the combination *Urocystis agropyri*, applying it to the flag smut on *Carex acuta*, but citing as basionym *Uredo agropyri*, the flag smut on *Elytrigia repens*. The name *Uromyces agropyri* must be typified by the type of the basionym (i.e. the smut of *Elytrigia*) despite being applied by Fischer von Waldheim to the *Carex* smut (Art. 7.4). Körnicke assigned the new name *Urocystis fischeri* to the fungus described by Fischer von Waldheim on *Carex acuta*, but did not provide a description (nom. nud.). Winter later provided a description and validated the name *Uromyces fischeri* Körn. ex G. Winter 1881.

**Distribution:** Europe, Asia, North America, Africa (Kenya).

**Substrate:** Leaves.

**Disease Note:** Flag smut.

**Host:** *Carex* spp. (Cyperaceae).

**Supporting Literature:**

**Lindeberg, B.** 1959. Ustilaginales of Sweden. *Symb. Bot. Upsal.* 16: 1-175.

**Scholz, H., and Scholz, I.** 1988. Die Brandpilze Deutschlands (Ustilaginales). *Englera* 8: 1-691.

**Zogg, H.** 1985. Die Brandpilze Mitteleuropas unter Besonderer Berücksichtigung der Schweiz. *Cryptog. Helv.* 16: 1-277.

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